

A Pre Experimental Study to Assess the Effectiveness of STP on Knowledge Regarding Umbilical Cord Blood Banking among Nursing Students at Selected Areas in Jammu

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ABSTRACT

To keep in mind here researcher organized this study to assess the effectiveness of STP on knowledge regarding Umbilical Cord Blood Banking among Nursing Students, so that they can aware people in their future. **Statement of the Problem:** "A Pre- Experimental study to assess the effectiveness of STP on knowledge regarding Umbilical cord Blood Banking among Nursing Students in Jammu" **Study Objective:** 1)To assess the pretest knowledge score on Umbilical cord blood banking among Nursing students 2).To assess the post test knowledge score on umbilical cord blood banking among Nursing students. 3)To assess the effectiveness of STP on knowledge of umbilical cord blood banking among Nursing students .4) To find out the association between pretest knowledge score of Nursing students and Selected demographic variables. **Methodology:** Pre-test post-test pre- experimental research design. 60 samples were selected by using convenient sampling technique. A structured questionnaire was used to assess the knowledge. **Results:** Descriptive and inferential statistics were used to analyze the data. **The Paired t test comparison of pre-test and post-test level of knowledge regarding UCBB.** As per the Pre-Test knowledge score, it was found that the mean value was 18.5. Whereas as per the Post Test knowledge score, it was found that the mean value was 23.66. The mean difference between the pre-test and post-test level of knowledge was 5.16. Hence, the research hypothesis is rejected. It shows significant change in knowledge of staff nurses. The study findings revealed that the structured competency teaching program improved the knowledge and practice regarding cardio pulmonary resuscitation among nursing staffs.

KEYWORDS: Umbilical cord, Umbilical cord blood banking, Structured teaching program, Knowledge, Nursing Students, Pre-experimental, Pretest, Post test, Data analysis, Effectiveness, Assess, Mean, Difference, Findings, Hypothesis, Methodology, Design, Sample, Sampling Techniques, Conceptual framework

INTRODUCTION:

Umbilical cord blood rich in stem cell, which are the building of the blood and the immune system. These biologically unique cells have the ability to develop into other cell types within the body. Stem cell collects from the umbilical cord have the ability to replace bone marrow and to produce various blood and immune cells.

Cord blood can also be used for family members.

There is 50% chance of perfect match for a parent and 25% chance for a perfect match for a sibling. However one of the many benefits of cord blood is that you do not need a perfect match because stem cells from umbilical cord are very immature and have limited exposure to environment and viruses, unlike bone marrow. The first clinically documented use of cord blood stem cells was in the successful treatment

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of a six- year - old boy afflicted by Fanconi's anemia by Dr. Elaine Gluckmen in 1988, in Paris. Since then, cord blood has become increasingly recognized as a source of stem cells that can be used in stem cell therapy

In the early 1900 European researchers realized that the various types of blood cells for example, WBCs, RBCs, Platelets. All came from a particular stem cells. Stem cells have an amazing ability to create different kinds of tissues

Stem cells are the basic building blocks of the body and have the potential to replenish other cells and give rise to number of tissues which constitute different organs. Major sources of stem cells are bone marrow, peripheral blood, cord blood or placenta, and embryo. Stem cells are unspecialized cells that have two defining properties i.e. the ability to differentiate into other cells and the ability to self regenerate. These cells migrate to injured areas within the body and get transplanted and transform themselves into new tissue cells that replace the damaged ones. Stem cells have the capacity to multiply and renew themselves almost indefinitely. Stem cells can form nerve cells, muscle cells and blood cells which cannot multiply themselves and have limited life spans. In tissue, that is still developing, stem cells give rise to multiple specialized cell types that can make up the heart, lung, skin, and other tissues.

Umbilical cord blood banking is **important**. Umbilical cord blood stem cells can replace all immune system and blood elements that could be damaged, that is why they can be used to treat leukemia, Lymphomas, Medullar aplasia, Thalassemia and severe immune system deficiencies. Today Umbilical cord is treated as a waste in 95% of cases. Being a Researcher I observed that most of the people lacking knowledge regarding Umbilical cord blood banking, that is why I choose this topic for my research study. So, that through this study I can aware people regarding Umbilical cord blood banking.

NEED OF THE STUDY:

In current and future perspective of the stem cells research report, the placental stem cells have many significant advantages over the sources. Umbilical stem cells are freshest and youngest stem cells, more tolerant to tissue mismatch, do not have DNA mutation that adult stem cells may develop overtime, avoids ethical debate and it is a biological health insurance for donor. Placental cord blood stem cells may be useful for the siblings, parents or cousins if there is an adequate HLA match. American nurses association reported that following studies were conducted regarding adult stem cells treatment to help transplants patients begin clinical trials, spinal cord

injuries treated with adult stem cells grafts, adult olfactory mucosa may be source of multipotent stem cells, adult stem cells to treat non healing bone fractures, stem cells used to treat lupus, and umbilical cord blood stem cells transplant saves baby's life.

Placental cord blood is the blood left in the umbilical cord within the placenta after birth of the child and is collected after the cord has been cut off within 10-15 minutes. The umbilical cord is routinely discarded with the placenta after a child is born. Cord blood also called placental blood. Placental cord blood has lots of blood producing stem cells which can be frozen and later used for transplants. It is genetically unique to the child and the family.

Being a researcher I have one year of experience in Apollo Hospital New Delhi, as well as I have surveying in many clinical settings in Jammu and Kashmir and I came in Conclusion that **there is no proper data regarding UCBB in Jammu and Kashmir** and I also Felt that there is a lack of knowledge in Nursing Staff as well regarding UCBB. So, I found that there is need to provide knowledge regarding Umbilical cord blood banking. So, that is why I have choose Nursing students Because they were the Future Nurses if they gain Good knowledge and they are well aware regarding Umbilical cord blood banking, They will definitely educate their patients in Future.

OBJECTIVES OF THE STUDY:

"Stem cell research can revolutionize medicine, more than anything since antibiotics".

"Ronald Reagan"

OBJECTIVES:

1. To assess the pretest knowledge score on Umbilical cord blood banking among Nursing students.
2. To assess the post test knowledge score on umbilical cord blood banking among Nursing students.
3. To assess the effectiveness of STP on knowledge of umbilical cord blood banking among Nursing students.
4. To find out the association between pretest knowledge score of Nursing students and Selected demographic variables.

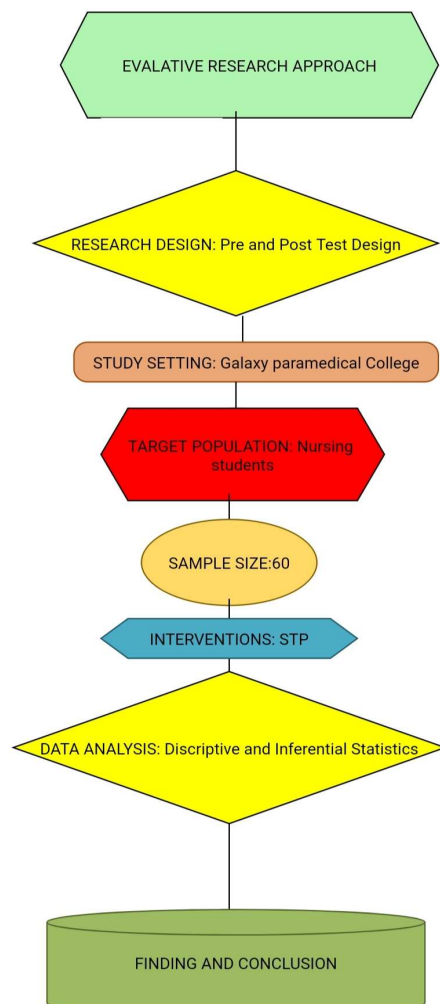
MAJOR FINDINGS:

The analysed data has been mentioned that majority of the participants 75% belongs to age group above 23 years. Highest number of participants 85% were Females. Majority of Participants Area of Residence is 91.67% is Urban Area and 8.33% were Rural area. Highest number of Participants were Unmarried i.e. 88.33%. Highest number of Participants 83.33%

Present Education is GNM. Majority of Participants Previous Educaion were 12 standard i.e. 85%. Highest number of Participants clinical exposure were 100% from Government Hospital. Majority of Participants information source was Mass Media that is 91.67%. Highest duration clinical exposure was 1-2 months that was 88.33%.

Results summarized that in Pretest the majority of Participants 73.33% found under category of average score and remaning 26.67% having Good score and none of the participants having Very Poor knowledge. In Post-test the majority of Participants 88.33% shown their knowledge level at Good while 11.67% Participants found Average Category. Further the Mean and Standard Deviation of Pre- test was 18.5 ± 2.34 while in post- test it was 23.66 ± 2.33 . The mean difference between 5.16 between pretest and Post-test mean indicating the change of knowledge level of participants after administrating of interventional package.

It observed based on analysis of gathered data that there is 5.16 a mean difference found in between pretest and post test mean of knowledge score of Nursing students, that means the STP is increasing the knowledge level of participants. STP is significantly effective to increase the knowledge level of participants at the level of significant if $p < 0.05$.



VALIDITY OF TOOLS:

To ensure validity of tools (Self- structured knowledge questionnaire) was given to the experts of various fields.

RELIABILITY OF TOOL:

It was calculated by test -retest method using Karl Pearson coefficient correlation formula and $r = 0.98$. (reliability)

PILOT STUDY:

The Pilot study is preliminary investigation of the same general chapter in the major study which is design to acquaint the researcher with problems that can be corrected in preparation for large research projects or is done to provide the researcher with an opportunity to try out the procedure for collecting data is feasible and predictable. The principal focus in the assessment of adequacy of measurement. Pilot study is a small scale version of the major study, its function is obtain information for improving the project or for assessment of the adequacy of measurement. Pilot study was conducted on 25th May to 30 May 2021. Formal permission was obtained from the principal of MMC institute of Nursing Jammu.. Six Nursing students were selected for Pilot study .The reliability of Pilot study was 0.98.

DATA COLLECTION PROCEDURE:

In the study, self- structured knowledge questionnaire was used for data collection. Permission will be taken from Principal of Galaxy Paramedical College of Nursing Sainik colony Jammu. Prior consent will be taken from Nursing students under study. Self- introduction was given to the students. Subjects was informed about the purpose of the study. Data was collected as follows:

Pretest was administered to students in the form of Self- structured knowledge questionnaire regarding umbilical cord blood banking. After pretest was implemented STP on students and after this i have taken post test from the sample.

PROCEDURE FOR DATA ANALYSIS:

In order to conduct the research study in the Galaxy paramedical college of Nursing, Written permission was obtained from the principal of college. The data collection period extended from 7th June to 15 June 2021. The date, time and place were confirmed after discussing with the class coordinators of Nursing students. Each day data was collected in the scheduled plan.

ANALYSIS AND DATA INTERPRETATION:

Table 1 reveals that the subjects were studied by placing them into various

categories, According to their Age, Sex, Residence, Marital status, Present Education, Previous Education, Clinical exposure, Source of information, Duration of clinical exposure. The findings were as follows:

According to Age in years, Maximum 45 (75%) nursing students were in the age group of above 23 years followed by 9 (15%) were 20-23 years and minimum 6 (10%) were of 18-20 years .

As per their Sex, maximum number of students 51 (85%) were Females and minimum 9 (15%) students were Boys.

As per Area of Residence, 55 (91.66%) students belongs to Urban area and remaining 5(8.33%) students were from Rural area.

According to their Marital status, maximum number of students 53(88.33%) were unmarried,

PRE- TEST:

The knowledge regarding Umbilical cord blood banking among Nursing students at Galaxy Paramedical college of Nursing Jammu, and it i observed that most of the sample are between 73.33% (Average) and remaining 26.67% (Good).

followed by 7(11.66%) were Married while no student belong to Seprated or Divorced category.

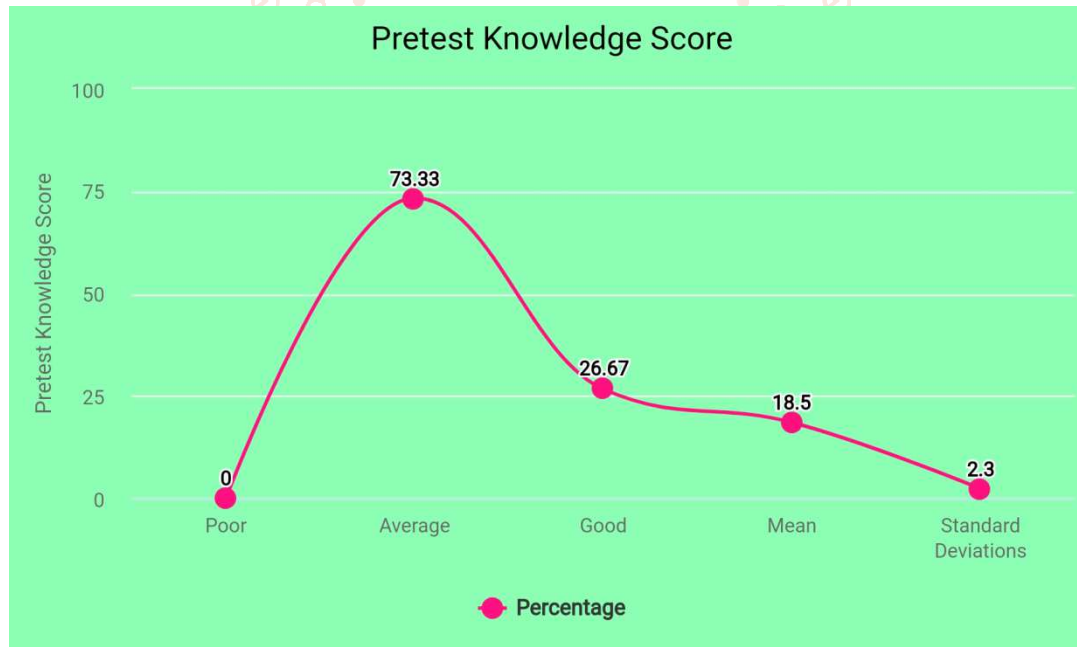
As Per present education, Maximum number of students 50 (83.33%) were studying in GNM ,followed by 9(15%) were studying in MMPHW and least number of students were studying in FMPHW.

As per their Previous education, majority of students have completed their 12th standard 51(85%) where as other students only completed their 10th standard only.

With regards to their place of Clinical exposure, all the students 60 (100%) had exposed to government sector only.

According to Source of Information, maximum number of nursing students 55(91.66%) has got information through Mass media and remaining 5(8.33%) from Health education.

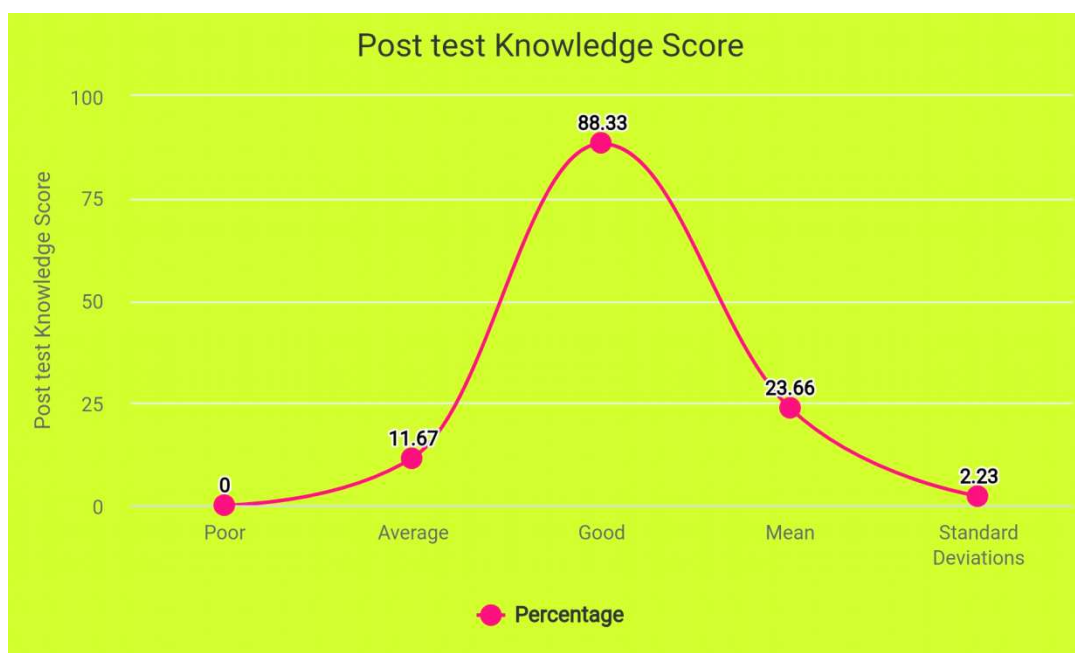
Based on Duration of Clinical Exposure, majority 53 (88.33%) nursing students had exposed for 1-2 months and remaining 7 (11.66%) were only exposed for < 1 month.



Graph 10: showing Pretest knowledge score of Nursing Students.

POST- TEST

The Post test subjects 88.33% having Good knowledge, and remaining 11.67% are from Average knowledge.

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